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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/721,193 | 11/26/2003 | Susumu Sakamoto | 2003_1715A | 6548 |
| 513 | 7590 | 12/13/2005 | EXAMINER | |
| WENDEROTH, LIND & PONACK, L.L.P. | | | TRIEU, THERESA | |
| 2033 K STREET N. W. | | | | |
| SUITE 800 | | | ART UNIT | |
| WASHINGTON, DC 20006-1021 | | | PAPER NUMBER | |
| | | | 3748 | |

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary

Application No.

10/721,193

Applicant(s)

SAKAMOTO ET AL.

Examiner

Theresa Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on November 29, 2002. It is noted, however, that applicant has not filed a certified copy of the JP 348396/2002 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke et al. (Clarke) (Patent Number 6,068,459) in view of Sato (Publication Number JP 2003-97462).

Regarding claims 1-3, as shown in Fig. 1, Clarke discloses a scroll fluid machine comprising: a low-pressure stage (18) compression part for compressing a fluid sucked in from an outside between mutually overlapping wrap portions of two scroll members (19, 20)

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performing a relative orbiting motion; and a high-pressure stage compression part (30) for compressing the fluid sucked in from the low-pressure stage compression part (18) between mutually overlapping wrap portions of two scroll members (31, 32) performing a relative orbiting motion; the scroll members (31, 32) in the high-pressure stage compression part (30) providing a higher value of pressure rise than that provided by the scroll members (19, 20) in the low-pressure stage compression part (18); the wrap portions of the scroll members (31, 32) in the high-pressure stage compression part (30) have a smaller-wrap height than that of the wrap portions of the scroll members (19, 20) in the low-pressure stage compression part (18). However, Clarke fails to disclose different radial gap between the wrap portions of the low-pressure and high-pressure stages compression part.

As shown in Figs 1 and 2, Sato teaches that it is conventional in the scroll compressor art to utilize the scroll members (6, 8) in the low-pressure stage compression part (23, 26) have a larger radial gap between the wrap portions (6, 9) than that of the scroll members in the high-pressure stage compression part (27, 24) (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the different radial gap between the wrap portions of the low-pressure and high-pressure stage compression part, as taught by Sato in the Clarke apparatus, since the use thereof would have improved the efficiency of the scroll compressor device.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke in view of Sato as applied to claim 1 above, and further in view of Suefuji et al. (Suefuji) (Patent Number 6,267,572).

The modified Clarke device discloses the invention as recited above; however, the modified Clarke fails to disclose the low-pressure stage scroll members and the high-pressure stage scroll members being spaced away from each other.

As shown in Fig. 7, Suefuji teaches that it is conventional in the scroll compressor art to utilize the low-pressure stage compression part comprising a low-pressure stage fixed scroll member (4A) and a low-pressure stage orbiting scroll member (22A), and the high-pressure stage compression part comprising a high-pressure stage fixed scroll member (4B) and a high-pressure stage orbiting scroll member (22B), wherein the low-pressure stage scroll members (4A, 22A) and the high-pressure stage scroll members (4B, 22B) being provided spaced away from each other; an electric motor (8) having a single output shaft (20); wherein the low-pressure stage orbiting scroll member (22A) and the high-pressure stage orbiting scroll member (22B) being provided respectively at both ends of the output shaft (20). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the space between the low-pressure and high-pressure stages scroll members, as taught by Suefuji in the modified Clarke apparatus, since the use thereof would have eliminated the need providing a crankshaft on the orbiting shaft to cause the orbiting scroll members to orbit and reduced in overall length in the axial direction and provided a compact scroll compressor device.

Prior Art

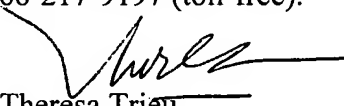
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of four patents: Shaffer et al. (U.S. Patent Number 4,382,754), Shaffer (U.S. Patent Number 6,511,308), Machida et al. (Publication Number JP 10-184569), and Suefuji et al. (Publication Number JP 2000-356193), each further discloses a state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT
December 2, 2005


Theresa Trieu
Primary Examiner
Art Unit 3748